

Keynote Address

by

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Thank you, Commissioner Christie, for that warm introduction, and good morning, ladies and gentlemen. Your organization has important functions and responsibilities, and I expect its activities will become even more important in the next several years. It is appropriate, then, for you as a group to be looking ahead and thinking about how the region's electricity needs and concerns can best be met. I welcome the opportunity to express my views on this subject and to support what I hope will be a fruitful long-term dialogue between OPSI and DOE.

Introduction

Before going further I want to give you a brief status report on where we are concerning the possible designation of National Interest Electric Transmission Corridors, or National Corridors, to use our shorthand term. As most of you know, the Department published two draft National Corridors for public comment last spring. One of these Corridors would affect a large portion of the PJM area. The comment period closed July 6, and we received

more than 2000 comments, many of which were very thoughtful and forcefully argued. DOE staff have read and considered these comments carefully, and are preparing recommendations for the Secretary's review concerning the possible designation of one or more National Corridors. Because we still have this matter under consideration, I am not able to discuss it further with you today.

That limitation, however, will not prevent us from discussing other important aspects of the electricity industry in the area covered by PJM. As you know, one of my office's major assignments is to facilitate the modernization of the Nation's electricity delivery systems. For my team, this assignment goes far beyond a concern about the development of new transmission and distribution facilities. We are acutely aware, for example, that how much new transmission capacity a region needs, and where it needs it, are the net results of many other factors – such as the rate of demand growth, the scale and effectiveness of energy efficiency programs, the pace and location of renewable and other generation

development, the pace and location of retirements of existing generation facilities, and so forth.

In short, we, like you, are interested in how we can help shape the evolution of the overall delivery infrastructure to best serve the public interest. The transmission network is of course vital, not for its own sake, but because it enables the region to use its available generation capacity to best advantage at all times, in the face of ongoing changes in fuel prices, economic conditions, weather patterns, federal and state policy objectives, and unplanned outages of key generation and transmission facilities.

Further, the electricity industry itself (which used to be a business where things changed v-e-r-y slowly) has entered a period of enormous evolutionary change, and many of you are tasked with providing policy guidance to facilitate that transition. The broadening realization that we need to control and reduce the emission of greenhouse gases has implications for all who live on

this planet, but it has special implications for all of us here today.

We face many uncertainties about how and when these emissions will be reduced, and at what cost, but there are some things that are already becoming clear:

- It appears that the cost of producing electricity from fossil fuels, particularly coal, may increase significantly. This, along with rising costs for new power plants in general, may lead to higher electricity rates in some areas.
- A wide range of alternatives to fossil-based generation needs to be considered, and many of these alternatives are likely to play a larger role than we have seen earlier. The menu includes energy efficiency investments, demand response programs, central-station renewables, distributed renewables, nuclear energy, and hydro imports.
- The development and deployment of plug-in hybrid vehicles has the potential to both reduce greenhouse gas emissions and open a huge new market for electricity producers. The scale of the reductions in greenhouse gas

emissions achieved will be a function of both the rate at which such vehicles penetrate the market, and the rate at which the generation fleet transitions to lower- or no-carbon emission technologies.

- The overall efficiency and controllability of the electricity delivery infrastructure can be improved significantly through the increased use of “smart,” interactive control devices and networks – devices and systems that will enable us to deliver more services to consumers at lower cost and with fewer adverse impacts.

Roles for OPSI and PJM

Many of the states represented here today have either already prepared a long-term energy plan or are in the process of doing so. For example, last week Governor Kaine issued a Virginia Energy Plan. I commend the states highly for these efforts. Such plans will undoubtedly need periodic updating and mid-course corrections, but in my view they are essential tools for states

seeking to steer their way through today's uncertainties and achieve their most basic energy policy objectives.

Development of state-level energy plans, however, is only one step in a longer and larger process. In most parts of the country, wholesale electricity markets have become regional in scale.

Although I expect distributed generation to become more important than it is today, I think today's pattern of siting much generation distant from load – and often in another state – will continue for many years to come.

In turn, this means that state-level planning needs to be followed with *regional-scale* planning and coordination. After sharpening their thinking about their future electricity objectives, strengths, and needs, states need to discuss with their neighbors some basic questions concerning the mix and locations of the region's generation resources, what transmission facilities are required and where, how urban areas should strike an appropriate balance

between local generation, energy efficiency programs, and imports via transmission, and the like. In the end, a given region will have only *one* electricity delivery infrastructure. We will all benefit if the states in the region are in some agreement about what its basic features should be and are able to work in a coordinated way to bring that shared view to reality.

OPSI can play a crucial role in this evolutionary process, by hosting PJM-wide discussions of relevant issues, or by facilitating discussions as needed among smaller groups of states, and in general by serving as a regional coordinator and information clearinghouse. PJM can also be of great assistance in this process, as a source of critically important information and analysis. ISO-New England, for example, recently published an analysis of long-term electricity scenarios designed and developed specifically to serve as an information resource for state regulators and other stakeholders as they grapple with questions about that region's electricity future. ISO New England designed and executed the

study with the help of a stakeholders' steering group, so as to enhance the report's credibility and usefulness to its intended audience.

Although some may question whether activities of this kind, whether by OPSI or by PJM, are appropriate, consistent with the organizations' charter and mission, etc., I do not share those concerns. To me the need is clear and urgent, and frankly, there aren't very many organizational horses available that can carry this load. These are important regional electricity questions, and we need to rely on our regional electricity organizations to help find answers to them.

How OE Can Help OPSI and Its Members

My office can assist OPSI and its member states in dealing with these challenges in several ways. The office provides technical assistance to state commissions, governors' offices and legislatures (on an as-requested basis) on matters related to the development of

state electricity policies and the coordination of such policies at the regional level. These efforts have included design of renewable portfolio standards, energy efficiency programs, enhanced demand response, development of a regional transmission siting protocol, regional planning support, etc. The talents and experience of some of the Nation's leading experts on these subjects are accessible to you through my office, DOE's national laboratories, and other organizations we work with.

Some of your commissions are already familiar with our work in these areas through existing projects. For example, we have been pleased to support the work of the Mid-Atlantic Distributed Resources Initiative (MADRI). Maryland Commissioner Freifeld chairs MADRI's Steering Committee, and many of your commissions are participants in the Initiative. Like OPSI itself, MADRI is a great example of how states can work together to better inform their individual actions, and also coordinate as needed at the regional level. You should be proud that Midwest

and Pacific Northwest state commissioners have asked us to help in them developing a MADRI-type process in their regions. In the West, where cooperation on electricity matters among groups of states occurs frequently, we have assisted the Western Governors Association in a number of pathbreaking projects over the past several years, and we expect this work will continue.

We are also pleased to have served, jointly with EPA, as the facilitators for the National Action Plan for Energy Efficiency.

The Action Plan, as you may have heard, was produced by a group of leading electric and gas utilities, state commissioners and other state officials, and their respective national associations, as a call for electric and gas utilities and related organizations to deliver more energy efficiency services to ratepayers. Some of you or your staff attended a regional workshop organized by this group last April in Philadelphia.

Last week Energy Secretary Bodman announced that DOE, including my office, is providing support for the National Governors Association's new Clean Energy Task Force, which will promote advanced electricity generation and improved efficiency. One of the Task Force's members is Pennsylvania's Governor Rendell.

In another subject area, my office works with states, the electricity industry, and electricity-related organizations to make the Nation's electricity infrastructure more resistant to natural disasters and physical or cyber assaults. Our expertise in this area is also available to OPSI and its members if you have questions or concerns on these subjects.

On the more technical side, as many of you know, my office manages the federal government's principal research program on transmission and distribution technologies and other grid-related problems. We are eager to work more closely with states and

utilities to facilitate the most appropriate applications of new technology in grid modernization efforts.

We have research under way in four major areas:

- *High-temperature superconductivity.* We are developing wire that can be used for superconducting transmission cables and other applications. We think that for the long term this work has great promise, but for the next decade or longer the costs will be such that the technology will be economically feasible only in certain niche applications.
- *Visualization and Controls.* These are devices that improve grid operator's response times to problems and enable the development of switchable, smart, and secure networks.
- *Energy Storage and Power Electronics.* The capability to store electricity or energy economically in large quantities has long been a key goal for this industry, and progress in this area is now more important than ever. Advanced storage designs and materials will enable grid planners and operators

to integrate larger fractions of intermittent renewable generation into a region's generation mix. High voltage power electronics will help to improve power quality and accelerate the speed of grid operations.

- *Distributed Systems Integration.* We are closing out our generation research programs in microturbines and internal combustion engines, because these technologies are now commercially proven. At the same time, we are giving additional attention to the challenges of integrating these and renewable technologies smoothly into existing distribution systems and the transmission grid.

Finally, OE can help to coordinate OPSI's relations with the rest of DOE, when appropriate.

Next Steps for OPSI and DOE

DOE realizes that OPSI's member states will need to talk among themselves about what sort of relationship with DOE would be

most fruitful. DOE speakers will continue stressing the need for regional thinking and action in meetings with other groups, and we welcome further discussion with OPSI representatives when that would be helpful. I will be happy to respond now to your questions or comments.